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TITLE: METHOD FOR COLLECTING GOLD FROM SULFIDE ORE AND TELLURIDE
GOLD AND
SILVER ORE

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ABSTRACT:

PURPOSE: To accelerate sepn. of Te and to permit deposition of gold in analysis by using ultrasonic oscillation for substitution, reduction or removal of impurities after pulverization of titled ore or a high-frequency induction or high-frequency vacuum melting furnace for treating and refining of the substd. matter.

CONSTITUTION: Cupreous sulfide iron ore and telluride gold and silver ore are pulverized and borax is added to the powder thereof. After the powder is roasted and briquetted, the briquettes are cooled. The briquettes are again pulverized and are classified to metal powder and waste powder. The resultant metal powder is immersed in a nitric acid soln. and while the sepn. of Te is accelerated by applying the ultrasonic oscillation thereto, the powder is converted to oxide. The oxide is filtered and is separated to a soln. component and residual matter. The residual matter is dried and solidified by slow heating and after the borax is mixed therewith, Te is separated therefrom in the high-frequency (vacuum) melting furnace; in addition, said matter is roasted and is subjected to pulverizing and screening after cooling, by which the cold component is collected. On the other hand, the soln. component is kept applied with the ultrasonic oscillation and in this state the copper powder is charged thereto to substitute the gold and silver components. The

powder is filtered and the borax is mixed with the filtrate. The filtrate is immersed in a sulfuric acid soln. and is rested until the briquettes are formed. The briquettes are roasted at above the b.p. of Te in the above-mentioned melting furnace. The melt is tapped from the furnace at the point of the time when the briquettes are melted. The melt is pulverized after cooling and the powder is subjected to sepn. of slag and the metal component.

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